Z881
P968
E1
1-size

Brown University--John Carter Brown Library

Early Maps And Their Uses

John Carter Brown
Library
Brown University

Down from Bindery.

EARLY MAPS AND THEIR USES

AN EXHIBITION

Illustrating some of the practical uses
found for maps in daily life and in the
larger concerns of men in their expanding
world, from early times to the
nineteenth century

Opened by Alexander O. Vietor
at the Annual Meeting of
The Associates of The John Carter Brown Library
Brown University
May 17, 1963

Providence
1963

I - MAPS FOR USE AT SEA

1. Lucas Janszoon Waghenaer. The Mariners Mirrour. [London, 1588].

This is an example of the coastal charts in a seaman's book considered indispensable in the late sixteenth and early seventeenth centuries. It was first published in Dutch in 1584 and later translated into English and other languages. The book consisted of a general manual of navigation, charts, and sailing directions for the western coasts of Europe from Spain to Scandinavia and the Baltic. When Captain John Smith listed the books he considered important for the cabin of a shipmaster or navigator, he recommended a "Waggoner". This was the English mariner's usual name for *The Mariners Mirrour* or for later books of similar content, originating in a half-hearted attempt to pronounce the name of the Dutch compiler.

2. The English Pilot. The Fourth Book. London, 1706.

Later generations of English navigators found their basic materials in the series of books known as *The English Pilot*. The fourth book of this work, containing charts and sailing directions for the western hemisphere, was published in many editions beginning in 1689 and continuing for nearly a century. Shown here is the title-page with its long description of the contents.

Among the later editions of the *Pilot* owned by the Library is one purchased in 1748 by Captain James Brown, to which he added manuscript notes of sailing directions, supplementing the information in the book, which was frequently less specific than was needed by a practical shipmaster.

3. [Chart of the Gulf Stream.] Paris, Le Rouge, [before 1785].

Although the books in this case were undoubtedly used by seamen of their time, the essential unwritten lore of the sea, the accumulation of experience through generations, was often slow in finding its way into print. For years American navigators knew of the Gulf Stream, and they had learned by trial and error to avoid sailing against its current. As early as 1735 a description of the Gulf Stream's behavior appeared on a map of the Chesapeake, but it was not until the day of the ever-practical Benjamin Franklin that a Nantucket sea captain's version of the course of the stream was printed, at Franklin's instigation, on an English chart of the Atlantic. Although no copy is now known, Franklin later had a similar chart engraved in Paris. To what extent the French chart, shown here, was used in actual practice is uncertain because all the surviving examples are in pristine condition. It is quite probable they all have come from Franklin's own stock of the edition.

EK '63
May

(on wall panels)

4. [George Harwar.] A New & Exact Draught of the River Canada Aproved by The Honbl. Sr. Will: Phipps, at his Expedition to Quebeck. [London, ca. 1694].

Sir William Phips had available a manuscript of this map on his expedition to Quebec in 1690, an enterprise that ended in disaster. One reason for his ill success (it was said at the time) was the lack of pilots familiar with the navigation of the St. Lawrence. Certainly this map would have been of little practical use to him or to a pilot. In spite of its shortcomings, however, it was published in two editions in London in the years immediately following the expedition. Detailed maps and charts of the French territories were apparently not easily obtained by the English.

5. Edmund Halley. Tabula haec Hydrographica Variationum Magneticarum. London, [1737?].

The first scientific expedition to study the variation of the compass was made by Edmund Halley under the auspices of the British Navy in 1698-1700, and the result was the mapping for the first time of the lines of equal variation. Halley's map of the Atlantic is shown here, with his printed explanation of its use, in the form in which it appeared in several editions of The English Pilot. The complex navigation problems arising from the difference between true north and the magnetic pole had been recognized as early as the fifteenth century, and practical rule-of-thumb methods for coping with the difficulties had been worked out long before Halley's day. His chart, however, must have been of real use on the long voyages that had become usual by the year 1700.

(on table)

6.& 6a. Aaron Arrowsmith. Chart of the Pacific Ocean. London, 1798. Abstract of a Journal from Providence towards Canton (round New Holland) in the Ship Ann & Hope. Ms., 1799-1800.

Before the days of scientific expeditions to chart the Pacific Ocean, knowledge of its many islands and reefs was gathered in small bits and pieces supplied by innumerable shipmasters over a long period of years. The ships of Brown & Ives played their part in this gradual accretion of knowledge as is vividly illustrated by the two items shown here.

At the right is one of the sections of an English chart of the Pacific of 1798, showing in print the routes of explorers like Bougainville, Cook, and Carteret. In pen and ink are added the tracks of several Brown ships in the Pacific trade. At the lower left-hand corner, also added in ink, are two small islands southwest of the Fijis, sighted in December, 1799, by the Ann & Hope on her second voyage.

At the left is a summary of the log of the voyage, giving the captain's account of the discovery, with the observed latitude and longitude of the islands.

7. [Chart of the St. Lawrence River.] in: J. F. W. Des Barres, The Atlantic Neptune, Published for the use of the Royal Navy of Great Britain, London, 1774-1781. (Volume II.)

The chart shown here was printed in four sections, and it was possible at the time to buy it in sheets that could be of practical use on board ship. It is a sample of the contents of the great collection compiled over a period of ten years under the auspices of the British Admiralty, containing detailed charts of the North American coast, with a number of views of harbors and cities. A contemporary

French reviewer called the book "one of the most remarkable products of human industry that has ever been given to the world through the arts of printing and engraving."

8. [Matthew Clark. Charts of the coast of America. Boston, 1789.]

Based on the British Admiralty charts of The Atlantic Neptune, the charts shown here are part of the first maritime atlas published in America. The difference in quality is obvious, but the very fact that they were published at all is remarkable.

II EXPLORERS' MAPS

9. Vesconte Di Maggiolo. [World Map on a polar projection.] Ms., 1511.

Drawn only eighteen years after Columbus returned from his first voyage of discovery, this manuscript world map is among the most important of the early maps to show the Americas, and it is one of the very few bearing a definite date (January 20, 1511). In recent years the map has been carefully studied by historians in connection with the fifteenth-century English voyages to America, for which there are only fragmentary records, some of them tantalizingly reflected in maps of the early sixteenth century. One of the legends on this map -- "Terra de los Ingresy" or "Land of the English" -- is thought to be a record of the discoveries of John Cabot.

10. La Carta Universale della Terra ferma & Isole delle Indie occidentali, Venice, 1534.

The maps brought home by the early Spanish explorers were carefully guarded from the eyes of rival foreigners. They were combined into a general official map, called the padrón real, which was kept continuously up to date. No one is sure what this official map looked like, but this woodcut, printed at Venice in 1534 is generally regarded as a derivative from the padrón, probably made from a copy surreptitiously sent to Italy.

11. Samuel De Champlain. [Northeastern North America] faict par le Sr. de Champlain. [Paris], 1616.

Champlain, explorer and colonizer of Canada, made a number of maps to illustrate the several published accounts of his many voyages and long journeys into the interior of the unknown continent. This map, a proof copy not published at the time it was made, was probably intended as an illustration for his Voyages of 1619, which contains no map. It shows the names of Indian tribes not known before and records his idea of Lake Champlain, which he saw, and of some of the Great Lakes, which he knew only from reports of the Indians. He also included Hudson's Bay, which he did not explore, from a Dutch map of 1612, the first to show Hudson's discovery. The map demonstrates Champlain's ability and willingness to use recent materials and combine them with his own observations in an attempt to make an understandable picture of the entire region.

12. "Lac Superieur et autres Lieux ou sont les Missions des Peres de la Compagnie de Iesus" in: Relation...de...1670 & 1671. Paris, 1672.

The Jesuits in New France probably did not often think of themselves as explorers. The long, difficult, and often painful journeys they made into the interior of the country were to them merely incidental to their missionary purposes. The map shown here illustrates one of the annual reports, or Relations, of the Jesuits. It also just happens to be the first map of Lake Superior.

(on wall panel)

13. Louis Joliet. Nouvelle Decouverte de plusieurs Nations dans la Nouvelle France en l'année 1673 et 1674. Ms., ca. 1674.

Joliet had to draw this map from memory after returning from his exploration of the Mississippi and the Illinois country. Almost in sight of Montreal, after an absence of two years, he lost his notes and sketch maps when his canoe upset in the rapids. Crude and inaccurate as the map is, it shows vividly the overwhelming difficulties of an explorer's attempt to map a vast wilderness area.

III MAPS FOR PROMOTING SETTLEMENT OF COLONIES

14. John Smith. A Map of Virginia. With a Description of the Country. Oxford, 1612.

This famous map was published in many forms. It is used here to illustrate a colonization tract of 1612 describing the new Virginia settlement and its possibilities. The compiler claimed all the land was "open for labor of a good and wise inhabitant", and he asked "Cannot this successful example move the incredulous of this time, to consider...Virginia, which might be, or breed us a second India?"

15. [Sir Robert Montgomery.] A Discourse Concerning the designed Establishment of a New Colony to the South of Carolina. London, 1717.

Sometimes promoters of colonies made maps to show what they intended to do with the lands that had been granted to them. This plan shows the ideas for a settlement which Sir Robert Montgomery hoped to make in a large tract of seacoast and islands in Georgia. He called it Azilia, or the Golden Islands, "in the most delightful Country in the Universe." Montgomery failed in his "hard-sell" promotion, but his map has become of interest in recent years to students of the history of town planning.

16. Thomas Hutchins. A Topographical Description of Virginia, Pennsylvania, Maryland, and North Carolina. London, 1778.

Captain Thomas Hutchins of the "Royal American" Regiment (the 60th Foot in the British army) wrote this description of the country beyond the Appalachian Mountains, which was then being settled, to explain his large map, which is shown on one of the panels at this end of the room. Although his work is basically geographical, it was useful as a colonization tract because he laid special emphasis

on the most practical routes from the coastal settlements across the mountain barrier. He calls the Middle West a country "which, for healthfulness, fertility of soil, and variety of productions, is not, perhaps surpassed by any on the habitable globe."

17. "A Map Of The Island and a Plan of the settlement of Tobago in the West-Indies" in [John Fowler], A Summary Account, London, 1774.

After the peace of 1763 the British government acquired most of the Windward Islands formerly owned by the French. Settlement of these islands, which produced sugar and cotton, was promoted by the government and financed by the sale of land which was supervised by the governor and a special commission. John Fowler, the clerk of the Assembly of the island of Tobago, compiled this book, which contained a great deal of information on the colony's history, present condition, and possibilities for the future. The map which illustrates his book is a reduced copy of the large official survey which was used in parceling out the lands for sale.

(on wall panel)

18. Thomas Hutchins. A New Map of the Western Parts of Virginia, Pennsylvania, Maryland and North Carolina. London, 1778.

This map was published with A Topographical Description, shown in Case III. Much of the information it contains was gathered by Hutchins himself, who served in the French and Indian War. He also used, and with proper acknowledgement, information from Lewis Evans's map (shown in Case V) and the surveys of another officer in his regiment.

19. A Map Of Some Of The South And Eastbounds of Pennsylvania. London, [1681].

The earliest map of Pennsylvania, made before William Penn's grant had been surveyed and before the founding of Philadelphia, was published as an integral part of a piece of descriptive promotion literature, designed to interest prospective settlers.

IV MAPS USEFUL IN DIPLOMACY AND THE LAW

The Line of Demarcation

Maps are such a commonplace accessory to diplomatic negotiations nowadays that it is difficult to realize they were not always as useful as they are now. When Columbus returned from his first voyage in 1493, with news of the discovery of lands not under any Christian sovereignty, the Pope issued the first "Bull of Demarcation", dividing the new lands between the two currently active maritime powers, Spain and Portugal. The dividing line was necessarily a longitudinal meridian.

At the Treaty of Tordesillas in 1494, the two powers tried to agree on the location of this meridian. Maps were not particularly useful to them because practical techniques for measuring longitude on the earth's surface had not yet been invented.

A conference of Spanish and Portuguese geographical experts was held thirty years later at Badajoz, but for the same reason they failed to determine the location of the meridian.

Manuscript maps of the generation after Columbus sometimes laid down the Line of Demarcation by guesswork, showing an advantage in territory to one party or the other, according to the mapmaker's views or nationality. The line itself, however, remained theoretical, and after many years piecemeal settlements were made on political rather than geographical grounds.

20. "Nuevo Mundo" in: Pedro de Medina, Arte de Navegar, [Valladolid, 1545]
21. Alexander VI, pope. Copia de la Bula de la concession. [Logroño, 1512]

Shown here is a Spanish version of the Line of Demarcation, apparently its first appearance on a printed map of definite date. The map was published in 1545 in a manual of navigation that became extremely popular through many editions, abridgments, and translations during the sixteenth century.

At the right is a printed copy of the revised text of the Bull of Demarcation itself, printed at Logroño in northern Spain about 1512.

22. [Pennsylvania, Maryland, and parts of Virginia, showing disputed Pennsylvania-Maryland boundary. London, John Senex, 1732] in: True Copies, [London, 1734?]

The use of maps to settle boundary disputes is strikingly illustrated by this map, which played an important role in one of the best known disputes in the history of our country. It is the map drawn in connection with the first attempt to settle the boundary between Pennsylvania and Maryland. Over the objections of the Penns, this map was chosen and engraved on copper in the shop of John Senex in January, 1731/2. He later printed it on the margins of copies of the Agreement that were engrossed on vellum. Also a few impressions on paper were made, and some of them, such as this copy, became attached to the version of the Agreement printed in London. It was from this map that Benjamin Franklin made his woodcut copy, which appeared with the celebrated Articles of Agreement, printed at Philadelphia in 1733. We have chosen to show this because it is closer to the actual legal proceeding than the later version.

23. [William Reed, of Boston. New England, showing boundaries claimed by Massachusetts.] Ms., 1678.

Royal Commissioners sent to the colonies by Charles II asked for and obtained from reluctant Massachusetts officials a map showing the boundaries they claimed in accordance with their interpretation of an ambiguous clause in their charter. The Commissioners' copy of the map was lost at sea, but another copy was made use of some years later by the Massachusetts agents sent to London to defend their claims. During the course of the legal proceedings the copy of the map shown here was made for the use of the Lords Commissioners for Trade and Plantations, and it later became a part of the Blathwayt Atlas, one of the Library's most important possessions.

The northern boundary claimed by Massachusetts, as may be seen from the map, was run through a greatly exaggerated Lake Winnepesaukee, the supposed source of the Merrimac River. After lengthy argument and much controversy, the claim was disallowed.

(on panel)

24. John Mitchell. A Map of the British and French Dominions in North America. [London], 1755.

Probably the most famous of all maps in American diplomatic history, Mitchell's map is known to have been used by the commission negotiating the Treaty of Paris in 1783 at the end of the Revolution. It was frequently used thereafter, particularly in connection with the settlement of the northeastern boundary between the United States and Canada.

Shown here in its first edition of 1755, the map was compiled by Dr. John Mitchell, following his return to England after a residence of several years in Virginia. Later editions contained extensive revisions. The entire map is too big to be displayed in its entirety. We are able to show here only two of its eight large sheets.

25. Cyprian Southack. [A New Chart of the English Empire in North America.] Boston, 1717.

The first map printed from copperplate in what is now the United States was issued primarily as a piece of international propaganda. Its obviously inaccurate and out-of-date geography was merely the setting for a plea to arouse the British colonists of the eastern seaboard to the danger of encroachment of the French on their western frontiers, by showing the relative locations of their forts and settlements. Already there had been two wars between the French and English on the North American continent, and this map was intended to play its part in warning the colonists of the danger of more wars to come if they did not make strenuous efforts to extend their foothold beyond the coastal region. Two more wars were fought in the half century following the publication of this map before the French were defeated and driven from North America.

26. Joseph Blanchard and Samuel Langdon. An Accurate Map of the State and Province of New Hampshire... Boston, 1784.

The state of Vermont had its origins in the controversy over conflicting grants of land made to New York and New Hampshire. As early as the 1760's the dispute was raging among the actual inhabitants of the area and the two rival colonies. From 1777 to 1791 Vermont carried on as if it were an independent country. The Blanchard and Langdon map in its first publication of 1761 portrayed the background of the controversy, and this extensively revised version of 1784 shows, from the New Hampshire point of view, the setting of the complicated legal and political disputes which preceded Vermont's final entry into the Union as a state seven years later.

V MAPS FOR ADMINISTRATORS OF COLONIES

27. Juan Lopez De Velasco. Demarcacion y diuision de las Yndias. Ms., ca. 1575.

The Spanish royal government administered its American colonies chiefly through the "Council of the Indies", which used the services of a royal geographer to compile information to be used to help in their deliberations. The man who held this title in the 1570's compiled this extensive manuscript describing the Spanish possessions in America. It is illustrated by a number of maps which were used a generation later by Antonio de Herrera in his extensive historical work, Historia de las Indias.

28. Instructiõ, Y Memoria, de las relaciones que se han de hazer, para la descripcion de las Indias. [Madrid, 1577.]

This official document is an example of the manner in which the Spanish officials collected information concerning their colonies. It is in the time-honored form of a government questionnaire requiring replies in fifty categories of information. Two of the fifty called for maps to be drawn to illustrate the replies. A questionnaire of this sort provided the basis for the report by López de Velasco, shown at the left in this case.

29. Lewis Evans. A general Map of the Middle British Colonies. Philadelphia, 1755.

30. Thomas Pownall. Speedily will be Published... A Map of the Middle British Colonies... [London, 1775.]

The uses served by Lewis Evans's map of the Middle British colonies are described in detail by the able colonial administrator, Thomas Pownall, in the printed prospectus he wrote for a new edition of the map planned for issue in 1775: "It was found by the officers and servants of the crown to have that degree of precision, that it was used by them both in England and in America, and served every practical purpose during the [French and Indian] war. Those who have served and travelled in America, have had few occasions of correcting it; on the contrary, its exactness as far as a general Map means to go, as far as a Map on this small scale could go, has generally been confirmed by experience on the spot. In any transactions since the war, where local precision has been necessary, this Map has been referred to, not simply in private, but public transactions..." Few maps were more successful and popular during the second half of the eighteenth century.

31. Richard Norwood. A Mapp or Description of Sommer Islands Somtimes called Bermudas, 1663. Ms., copied by Thomas Clarke, 1678.

Bermuda, first settled by the English in 1611, was administered through most of the seventeenth century by the Somers Islands Company. In 1663 the Company commissioned Richard Norwood to re-survey the lands and make a map and record of the landholders of the Islands. This record of the second complete survey of the colony was not published by the Company, and this manuscript is the only

contemporary example now surviving with the exception of Norwood's original in the Bermuda Archives, unfortunately a worn and mutilated relic.

Richard Norwood was a teacher, surveyor, and writer of mathematical books, who spent more than half his life in Bermuda.

VI MAPS FOR MERCHANTS AND TRADERS

32. Robert Thorne. "This is the forme of a Mappe sent 1527 from Siuill in Spayne" from: Richard Hakluyt, Divers Voyages, London, 1582.

In 1527 Robert Thorne, an English merchant living in Spain, wrote a "book" or essay, urging on Englishmen the possibility of reaching Asia by new routes and illustrating it with this crude world map. The demand throughout Europe for the spices and luxury products of China and India was a strong stimulus to exploration and, consequently, to the mapping of the world. Thorne's map and his essay were included by Richard Hakluyt in his earliest collection of voyages in 1582.

33. Herman Moll. "A New & Exact Map of the Coast, Countries and Islands within ye Limits of ye South Sea Company" in: A View of the Coasts, London, 1711.

In 1711 the South Sea Company was incorporated, inaugurating a series of financial schemes which touched off a speculative furor in England parallelling the Mississippi Bubble disaster in France. This map illustrates a book which was part of the promotional literature describing the monopoly and privileges granted to the English company for trade with Spanish South America and the Pacific Islands and outlining what were thought to be unlimited possibilities of development.

34. "Botany Bay in New South Wales" in: Logbook of the ship Ann and Hope on a voyage from Providence to Canton. Ms., 1798-9.

On a trading voyage to Canton from Providence -- the first to be made by the famous Brown & Ives ship Ann and Hope -- this logbook was kept by Benjamin Page, Jr., son of the skipper. Port Jackson, now Sydney, Australia, was to be the first stop for taking on fresh water, wood and provisions. Headwinds delayed the ship's entrance into the bay for several days, and finally she went into nearby Botany Bay, where Page had time to draw the chart to which the book is opened.

35. [The Fiji Islands, showing tracks of voyages to and from Sandalwood Bay.] Ms., 1811?

Sandalwood was one of the luxury items imported in quantity from the Far East in the early nineteenth century by trading vessels of several nations. A principal center of the trade was a bay in the Fiji Islands at the southwest end of the island of Vanua Levu. This manuscript map of the Fijis was probably made by an English ship-captain in the sandalwood trade to record his several voyages to the bay. These islands were not accurately mapped until the 1840's.

Almost in the center of this map is marked the location of the wreck of Eliza, a Brown & Ives ship which piled up on a reef in the summer of 1808, losing its cargo and a rather large amount of gold and silver coin. Some of the money was salvaged, some was appropriated by the natives, and (just possibly) some of it may still be there.

(on panel)
36. Joshua Fisher. Chart of Delaware Bay from the Sea-Coast to Reedy-Island. Philadelphia, 1756.

The dedication of Fisher's chart to "the Merchants and Insurers of the City of Philadelphia" makes clear its intended use as an aid to commercial navigation on Delaware Bay. In the lower left-hand corner the practical usefulness of the chart is attested by forty-two pilots and shipmasters.

The publication of this chart at the outbreak of the French and Indian War led to an attempt to suppress the edition because of the possible aid it might have given to a hostile French fleet approaching Philadelphia. Fisher declared, however, that despite the helpfulness and accuracy he claimed for the chart, it would still be necessary for local pilots to guide large vessels through the maze of shoals at the mouth of the river.

VII MILITARY MAPS

37. Christopher Gist. The Draught of Gen^{l} Braddocks Route towards Fort Du Quesne as deliver'd to Capt. McKeller Engineer. Ms., 1755.

This map summarizing the disastrous march of General Braddock towards Fort Duquesne was made by Christopher Gist, a Maryland surveyor and soldier who served as guide with Braddock's forces. The simplicity of the manuscript, which was drawn two months after the battle, is a far cry from the beautiful maps of trained military engineers shown elsewhere in this exhibition, but its accuracy is creditable.

38. Samuel Blodget. "A Prospective Plan of the Battle fought near Lake George" in: A Prospective-Plan of the Battle, Boston, 1755.

This illustrative plan, with the accompanying pamphlet to which it is keyed, was intended to show the complicated series of engagements that made up the Battle of Lake George fought on September 8, 1755. The victory of Sir William Johnson's force of colonials and Iroquois Indians restored confidence to the colonial Americans who had still fresh in their minds Braddock's defeat of two months earlier.

39. Bernard Romans. Map of the Seat of Civil War in America. [New York, 1775.]

Soon after the Battle of Bunker Hill this map of the Boston area was drawn by the Dutch-American military engineer, Bernard Romans. He shows the stations of the various detachments of Americans partially surrounding the city, and at the the lower right is a sketch of the British fortifications on Boston Neck.

40. Michel Capitaine Du Chesnoy. Plan de la Retraite de Barrenhill en Pensilvanie. Ms., 1778.

In May, 1778, the Marquis de Lafayette, by a brilliant manoeuvre at Barren Hill, near Philadelphia, escaped with his entire detachment from a trap by fording the Schuykill River at an unexpected point, thus being able to rejoin the main body of Washington's army. This plan of the action was drawn by one of Lafayette's aides-de-camp, a major whose surname "Capitaine" must have caused some confusion then as now. His rank of major was in the American army. In France he had been "Capitaine Capitaine." A number of examples of his fine work are owned by libraries in the United States.

41. Kane William Horneck. A Report of the State of the Fortifications in the Island of Antigua. Ms., 1752.

Shown here is one of nineteen maps and plans illustrating the report of an English military engineer to the Officers of the Ordnance Department concerning the fortifications of the English West Indian island of Antigua. A hurricane following several years of neglect had left the forts in some disrepair, which was carefully described in the report. Horneck's map shows in great detail the situation and condition of this particular fort, and is typical of the high quality of work done by British army engineers in the eighteenth century.

42. Ludwig Von Closen, baron. [The Island of Rhode Island under French occupation.] Ms., ca. 1780.

An aide-de-camp to the Comte de Rochambeau signed this carefully drawn map of the Island of Rhode Island, which shows roads, houses, fortifications, and camps, as well as the ships of the French fleet and their battle stations, with lines of fire indicating the extent to which the East Passage was defended by the French after their arrival at Newport in July, 1780. Baron von Closen was a captain in the Royal Deux-Ponts regiment, a German unit in the French army.

43. José Antonio Caldas. Topografica da Barra, e Rio de Espirito Santo. Ms., 1767.

An officer in the royal Portuguese school for military engineers in the city of Bahia (now Salvador) in Brazil drew this map of the bay of Espirito Santo and the city of Vitória. The ability to draw beautiful as well as useful maps seems to have been required of engineers in all the European armies of the period.

VIII MAPS FOR THE CLASSROOM

44. [Henricus Glareanus. World map] in: De Geometriae Principiis. Ms., ca. 1510-1520.

This manuscript may be considered a forerunner of the illustrated geographical textbook. Henricus Glareanus, a Swiss scholar who was learned in many fields of letters and science, prepared it in connection with his teaching at the University of Basle. Large wall maps of the world were apparently often used in teaching at that time, although very few of them have survived. Probably for this reason the printed forms of Glareanus's text, all later than this manuscript, appeared without any illustrative maps.

45. [Joannes Honter.] Rudimenta Cosmographica. [Corona, 1542.]

One of the popular brief textbooks of geography and cosmography of the sixteenth century was by Joannes Honter, a scholar-teacher who was active in the spread of the Reformation to the countries of eastern Europe. This version of his book is in poetic form (dactyllic hexameters, the metre of Virgil's Aeneid), making use of the rhythm to instil the facts permanently in the students' memories.

46. Petrus Apianus. Cosmographia. Antwerp, 1545.

The three diagrams on these pages containing maps and pictures are a familiar pedagogical device used to explain and distinguish between the terms: Cosmography; Geography; and Chorography, or Topography. These illustrations occur in many editions of Peter Apian's book on astronomy and geography, enlarged with commentary by Gemma Frisius.

47. John Crane. A Mercator's Chart...1684. Ms.

This manuscript world map of the late seventeenth century, drawn by a sixteen-year-old student, seems to be the product of an actual classroom exercise in a school of navigation and geography. Perhaps it was one of the maps drawn by the boys at Christ's Hospital School for its regular New Year's exhibition for King Charles II. It is known that students at the school, founded in 1675 to educate officers for the navy and merchant marine, learned mapmaking as a part of their basic professional training.

48. Jedidiah Morse. Geography Made Easy. New Haven, [1784].

Jedidiah Morse (Yale, 1783) was the first American to write and publish a textbook on geography. His Geography Made Easy, shown here in its earliest form, went through twenty-five editions during the author's lifetime. Morse also produced other more ambitious geographical books as well as works of theological controversy and missionary propaganda.

49. William Guthrie. A New Geographical, Historical, and Commercial Grammar. 4th edition. London, 1774.

The earliest records of the curriculum of Brown University (then Rhode Island College) tell us that "Guthrie's Geography" was used as one of the textbooks in the sophomore year. Guthrie was a standard English work, furnished with several maps, some of which were already being outdated by the progress of geographical discovery. Before 1850 the subject of geography had been dropped from the Brown curriculum and has never reappeared.

IX ROAD MAPS FOR TRAVELLERS

50. "Tabulae Peutingerianae" in: Ptolemaeus, Theatri Geographiae Veteris [edited by] Petrus Bertius. [Leyden, 1618.]

Maps used by land travelers are known to have been used in very early times, although no originals prior to the Middle Ages are extant. The roads of Romans, so important in the survival of their empire, must have been frequently and carefully mapped both for military and administrative purposes. The source of the two maps shown here was a thirteenth-century copy of a lost set of Roman road maps, which was discovered in Germany in the sixteenth century. Although they are unlike modern maps, it is still possible to recognize the distinctive "boot" shape of Italy.

51. "Distances of the principal Towns on the Continent from Boston, with the most noted Houses of Entertainment on the Roads" in: Nathaniel Ames, An Astronomical Diary, [Boston, 1771.]

Road maps of the American colonies did not exist in the early period because water transport was to be preferred whenever possible. During the latter half of the eighteenth century, however, an increasing number of roads were constructed and maintained. Most of the annual household almanacs contained lists of towns along the main roads, such as the list shown here for the roads leading from Boston. Aside from these lists, the colonists had little help in travelling on land aside from the simple method of asking local directions.

52. "From New York to Poughkeepsie" in: Christopher Colles, A Survey of the Roads of the United States, [New York], 1789.

The first American road atlas was compiled by Christopher Colles in 1789. He made use of "strip" maps, which had been known in England for well over a century and are familiar in our time to anyone who has used the similar maps now provided by automobile associations. Shown here is part of the road through Tarrytown on the way from New York to Poughkeepsie.

(on panel)

53. Abraham Bradley. Map of the United States, Exhibiting the Post-Roads, the situations, connections and distances of the Post-Offices. Philadelphia, 1796.

Bradley's map of the post-roads, with its table of mail schedules for summer and winter from Maine to Georgia, was made primarily for the use of post office employees. It contains in compact form a wealth of information concerning the state of development of transport and communications in the young republic during the 1790's.

54. John Alsop. A Map of all Friends Meetings belonging to the Yearly Meeting of Rhode Island, with their course or lying and distance from each other. Ms., 1782.

Among the early professional travelers in America were itinerant Quaker ministers. The map shown here was carried by one of them as he rode (or, perhaps, walked) from meeting to meeting in New England. It is backed with heavy linen, as were military field maps of the period, and folded to be carried in a pocket or saddlebag. The mileage between meetings and the general direction of the roads are accurately given, although general geographical accuracy was considered unnecessary for the specialized purpose of the map. Three other maps of this kind are known, all made around the end of the eighteenth century, covering the area of the New England Yearly Meeting, which was held at Newport.

X SURVEYORS' MAPS

55. William Folkingham. Feudigraphia. The Synopsis or Epitome of Surveying Methodized. London, 1610.

The surveyor was an essential person in opening up the lands of the New World. This manual of surveying, published in 1610, is opened to a section which gives directions for making a "plot" or surveyor's draught. The title-page of the book, even as early as 1610, recommends it for those doing business in lands "in the Plantation of Ireland or Virginia, for all Travailers for Discoveries of forraine Countries."

56. John Love. Geodaesia: or the Art of Surveying. London, 1688.

This excellent and detailed textbook for surveyors was deservedly popular, judging from the number of editions published after the first of 1688. Its explanations are accompanied by diagrams and several small maps. The perspective map shown here illustrates Love's directions for surveying the shoreline and shoals at the mouth of an hypothetical river. He included an extensive section on the surveying of wilderness lands in the new colonies with special reference to the Carolinas.

57. Maurice Mathews. Carolina SS. This Platt Represents the Shape and forme of five Thousand Eight Hundred Acres of Land...Ms., 1682.

A draught on parchment dated 1682 by Maurice Mathews, surveyor-general of Carolina, made in connection with a grant of land containing 5800 acres on the Edisto River in Colleton County in South Carolina. A Mr. and Mrs. John Smith were the recipients of the grant, and the legal instrument recording its registration is attached to the under side of the plat.

(on panel)

58. [Plat of Lands in Little Compton, Rhode Island.] Ms., ca. 1682. (An early nineteenth century copy of a lost original.)

An example of an early town surveyor's plan showing names of owners and the relative shape and size of their holdings. The area was at that time a part of the Plymouth Colony.

Z881
.P968
E1

Z881
-P968
E1